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REMARKS/ARGUMENTS

Upon entry of the instant reply, claims 1-39 will remain pending. Claims 1 and 25 are independent claims.

Reconsideration and allowance of the application are respectfully requested.

Discussion Of Interviews

Applicants express appreciation for the courtesies extended by Examiners Wong and Cano during several telephone discussions beginning on March 15, 2004 and continuing through the end of March, 2004.

During the several telephone discussions Examiner Wong indicated that the evidence presented in response to the Written Opinion had been considered. Moreover, Examiner Wong indicated that submission of the evidence in Declaration form should overcome the rejection based upon prior art.

Regarding the objection to the trademark appearing in the claims, Examiner Cano indicated that it was generally group policy not to permit trademarks in claims. It was asserted, for example, that when a trademark is utilized to describe a composition, there may be uncertainty as to what is contained in the composition. Applicants argued that in the instant situation the trademark is not describing a material, but is reciting an instrument utilized in a test, such as a test establishing a standard. Applicants argued that one having ordinary skill in the art would understand what instrument was being utilized, such as in a standard test. The Examiners indicated that a response should be filed presenting arguments, and the arguments would be considered.

Objection To Claims 1-39

In response to the objection of claims 1-39 for the assertion that trademarks are not permitted in claims, Applicants respectfully submit the following.

First, Applicants note that the claims are not rejected as being indefinite, but are only objected to under a general assertion that trademarks are not permitted in claims.

In response to this general assertion, Applicants respectfully submit that there is not a per se rule in the Patent and Trademark Office preventing the inclusion of trademarks in claims. The question that must be asked is whether the claim is definite to one having ordinary skill in the art. Therefore, if this ground of objection is maintained, the Examiner is respectfully requested to support the basis for objecting to a claim for including a trademark therein. **In particular, the Examiner is respectfully requested to point to support for the objection, and particularly support for the assertion that trademarks are not permitted in claims.**

Moreover, as noted above, the claims are not rejected as being indefinite under the second paragraph of 35 U.S.C. 112, and Applicants note that this further supports Applicants' position that the claims properly include a trademark in the present situation.

In particular, Applicants note that MPEP 2173.05(u), Rev. 2, May 2004, under the heading Trademarks or Trade Names in a Claim, indicates that:

> The presence of a trademark or trade name in a claim is not, *per se*, improper under 35 U.S.C. 112, second paragraph, but the claim should be carefully analyzed to determine how the mark or name is used in the claim. It is important to recognize that a trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus a trademark or trade name does not identify or describe the goods associated with the trademark or trade

> name. See definitions of trademark and trade name in MPEP § 608.01(v). A list of some trademarks is found in Appendix I.

Moreover, MPEP 608.01(v) indicates that if the product to which the trademark refers is set forth in such language that its identity is clear, the examiners are is authorized to permit the use of the trademark if it is distinguished from the common descriptive nouns by capitalization.

In the instant situation, the trademark is not utilized in the claim for purposes of establishing a components of a composition or elements within a claim. In the instant case, the claim feature is directed to the determination of the gelation temperature of the food composition as the intersection of the graphs of elastic modulus ,G', and viscous modulus, G", measured on a HAAKE™ Rheometer, RS 100 using the settings - Gradient 1°C/min, 0.4640 Hz, 95°C - 65°C, t=1800 s, 0.50 Pa, 65°C - 35°C, t=1800 s, 2.50 Pa. Thus, the claim is directed to a test to graph G' and G", and is referring to the model of the instrument being utilized in the test. Thus, one having ordinary skill in the art would utilize the specifically recited instrument or an instrument that would provide similar graphs of G' and G".

To assist the Examiner's understanding of the use of such an instrument, the Examiner's attention is directed to HAAKE Superior Quality Rheometers & Viscometers downloaded on July 1, 2004 from the web site http://www.haake.de/soft/features.htm, which discusses HAAKE rheometers, including Model RS100.

Moreover, the Examiner's attention is directed to Research Outline downloaded on July 1, 2004 from the web site http://www.fse.missouri.edu/Home/HsiehF/research.Hsieh.htm, which discusses instruments that are used, including the Rheostress RS 100 (Haake, Paramus, NJ)

which is indicated to be a sophisticate rheometer which allows rheological measurements under controlled stress (CS), controlled rate (CR) and oscillation (OSC) test modes.

Still further, the Examiner's attention is directed to Rheology Lab downloaded on July 1, 2004 from the web site http://baen.tamu.edu/users/castell/rheolab.htm, which discusses state of the art equipment for measurement and analysis of rheological properties of materials, including Haake Controlled Stress Rheometer (RS100), and Laboratory Equipment – Food Engineering and Physical Properties Labs, Chapter 2 pages 5-18, downloaded on July 1, 2004 from the web site http://baen.tamu.edu/users/rmoreira/rosananew04/htmfiles/equipments/EquipLab.pdf which relates to use of the HAAKE RS100.

Thus, Applicants respectfully submit that there is not a per se prohibition against using trademarks, and the objection should be withdrawn. Moreover, in the instant situation, the use of a trademark is appropriate.

Rejections Based Upon Prior Art

Claims 1-39 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Doherty et al. (hereinafter "Doherty"), U.S. Patent No. 5,607,716. The rejection contends that Doherty teaches the various components of Applicants' food composition. The rejection then contends that the claims appear to differ as to the gelation temperature but considers this to be inherent or obvious in view of Doherty.

In response, Applicants note that the Examiner indicated during the above-noted telephone interviews that Applicants' previously submitted arguments are persuasive, but that the Examiner

wanted the evidence submitted in response to the Written Opinion to be in Declaration form. Accordingly, for the sake of brevity Applicants incorporate their previously submitted arguments as if set forth in full herein. Moreover, Applicants are submitting herewith a Declaration Under 37 C.F.R.1.132 of Dorthe Pedersen showing that the composition of Doherty as presented in Example 1 has a gelation temperature, determined as the intersection of the graphs of G' and G", of greater than 95°C.

Applicants note that the photographs included in Figures 1-6 in the Declaration are not easily viewable due to their black coloration. Therefore, Applicants are submitting clearer copies of these Figures. Applicants respectfully submit that the Declaration should be acceptable because it should be considered to adequately present evidence. However, if the Examiner deems that an updated copy of the Declaration would be desirably submitted with clearer copies of the photographs directly attached thereto, the Examiner is respectfully requested to contact the undersigned by telephone to discuss the same.

Therefore, the rejection of record should be withdrawn, because in the instant situation, the rejection has merely asserted that the gelation temperature is a consequence of the composition and thus a value below 95°C would be inherent and/or obvious to that of Doherty. However, the rejection does not provide any support for establishing that the gelation temperature is a necessary consequence of the composition of Doherty. Moreover, with respect to the obviousness rejection, it is once again noted that the rejection is silent with regard to any modification of Doherty to arrive at Applicants' disclosed and claimed invention. Accordingly, the rejection is without appropriate basis.

Therefore, the anticipation and obviousness rejections should be withdrawn.

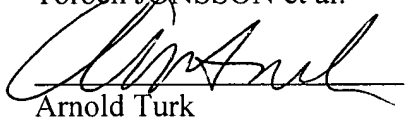
CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the objections of record, and allow all the pending claims.

Allowance of the application is requested, with an early mailing of the Notices of Allowance and Allowability.

If the Examiner has any questions or wish to further discuss this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,
Torben JONSSON et al.



Arnold Turk
Reg. No. 33,094

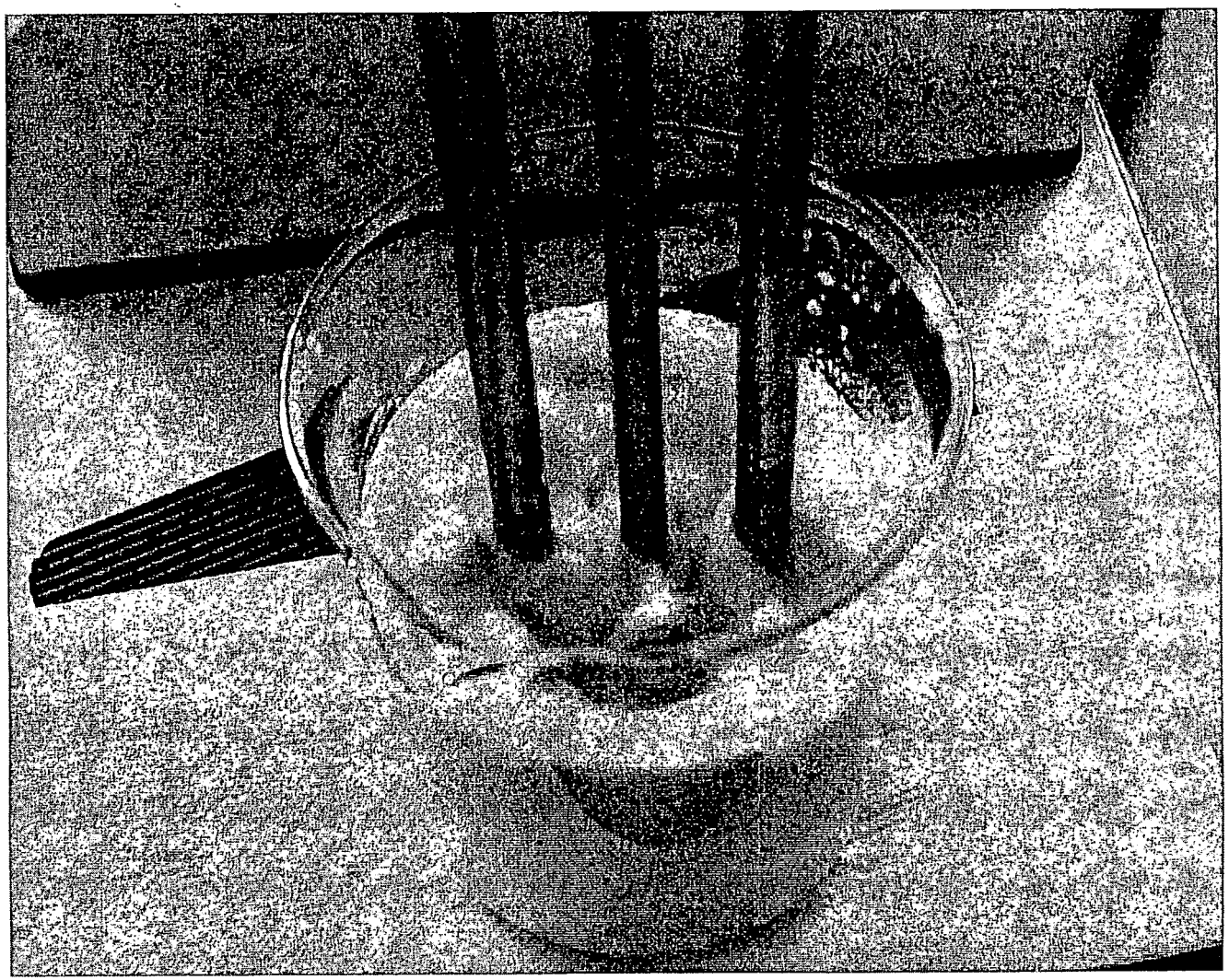
July 20, 2004
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191

CPKelco

Hershey patent caramel example 1

FIG. 1

- Dissolving carrageenan in milk solids/water

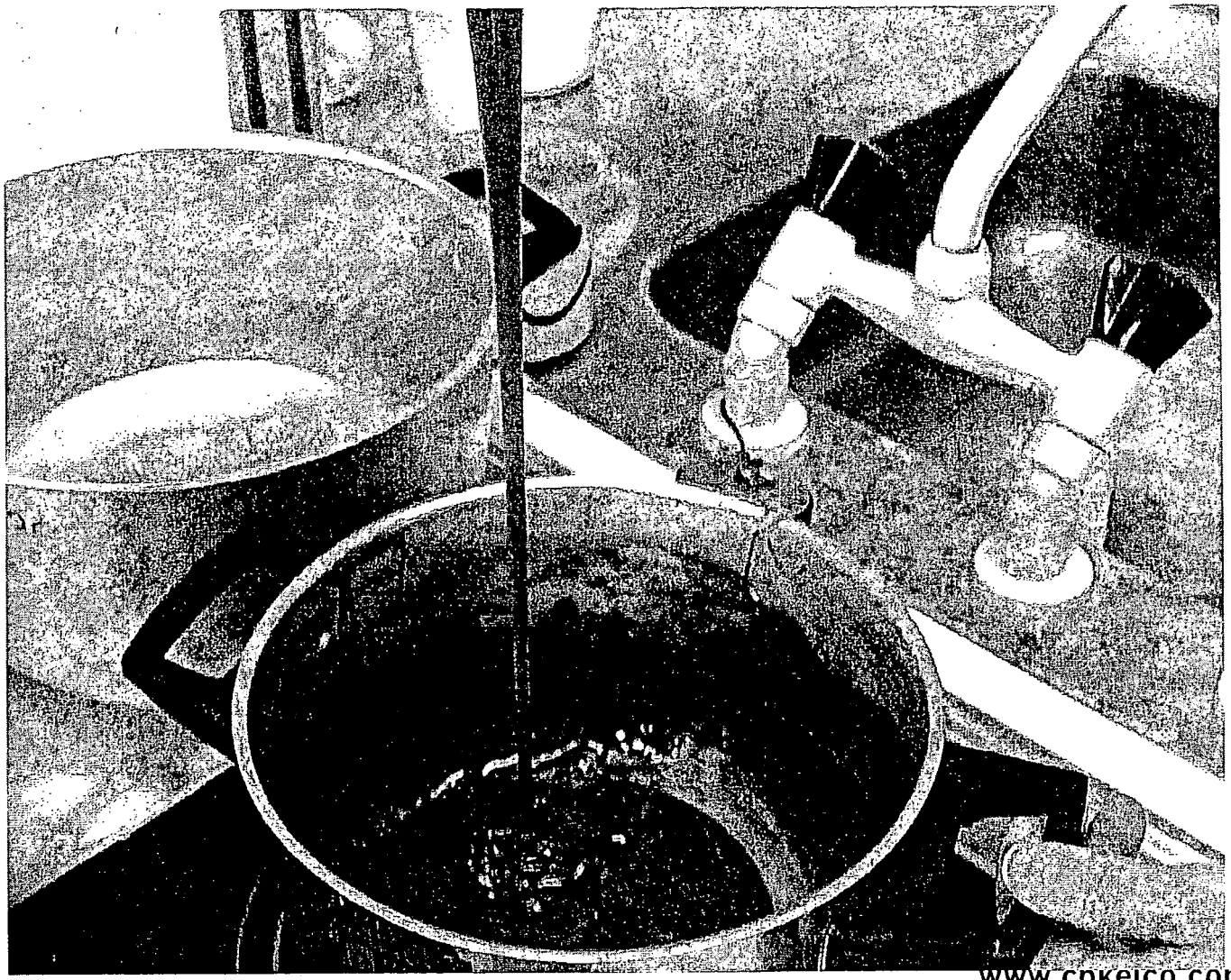


CPKelco

Hershey patent caramel example 1

FIG. 2

- Viscosity at 116 °C



CPKelco

Hershey patent caramel example 1

FIG. 3

- Viscosity at 100 °C

CPKelco

Hershey patent caramel example 1

FIG. 4

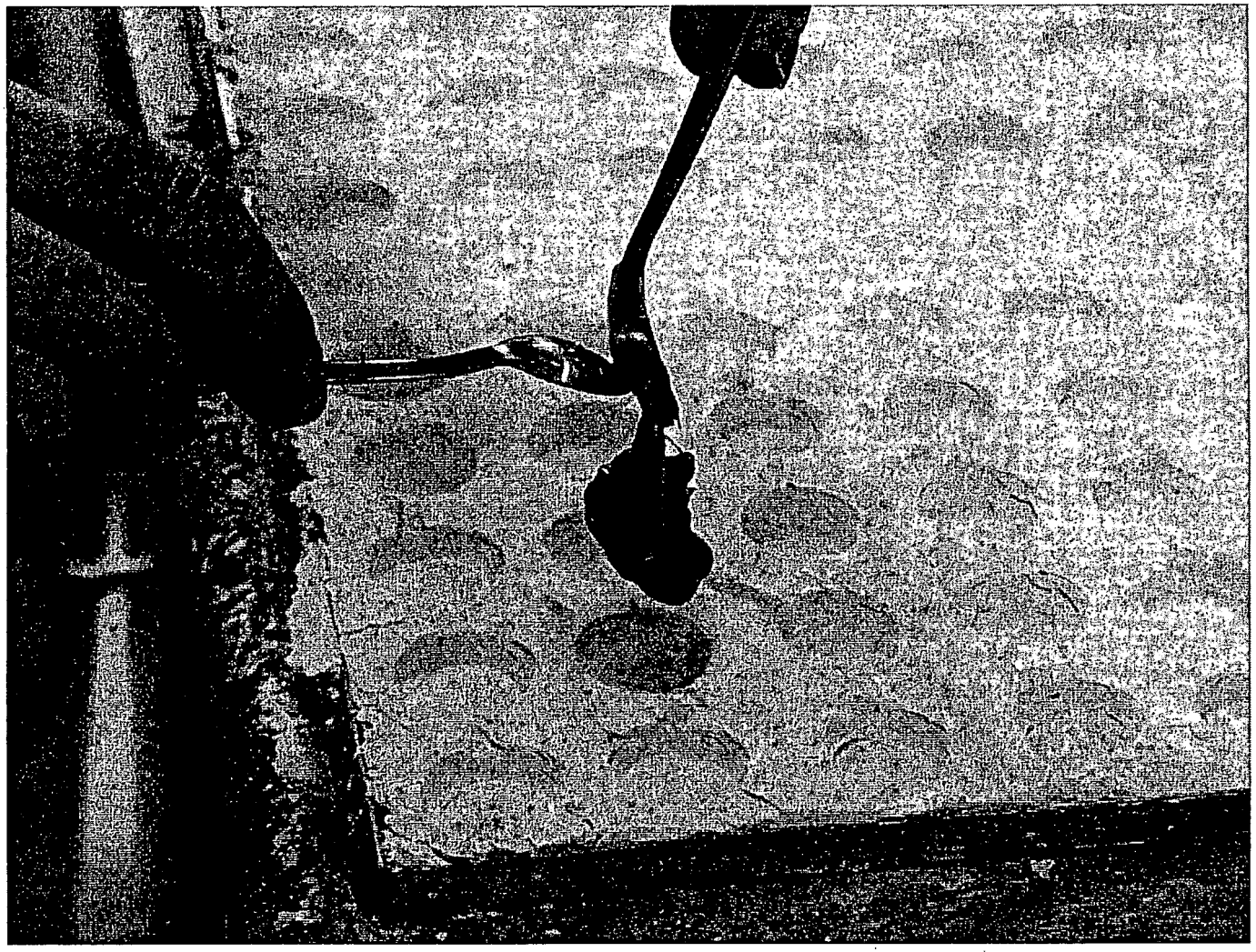
- Viscosity at 95 °C

CPKelco

Hershey patent caramel example 1

- Depositing at 95 °C in starch moulds

FIG. 5

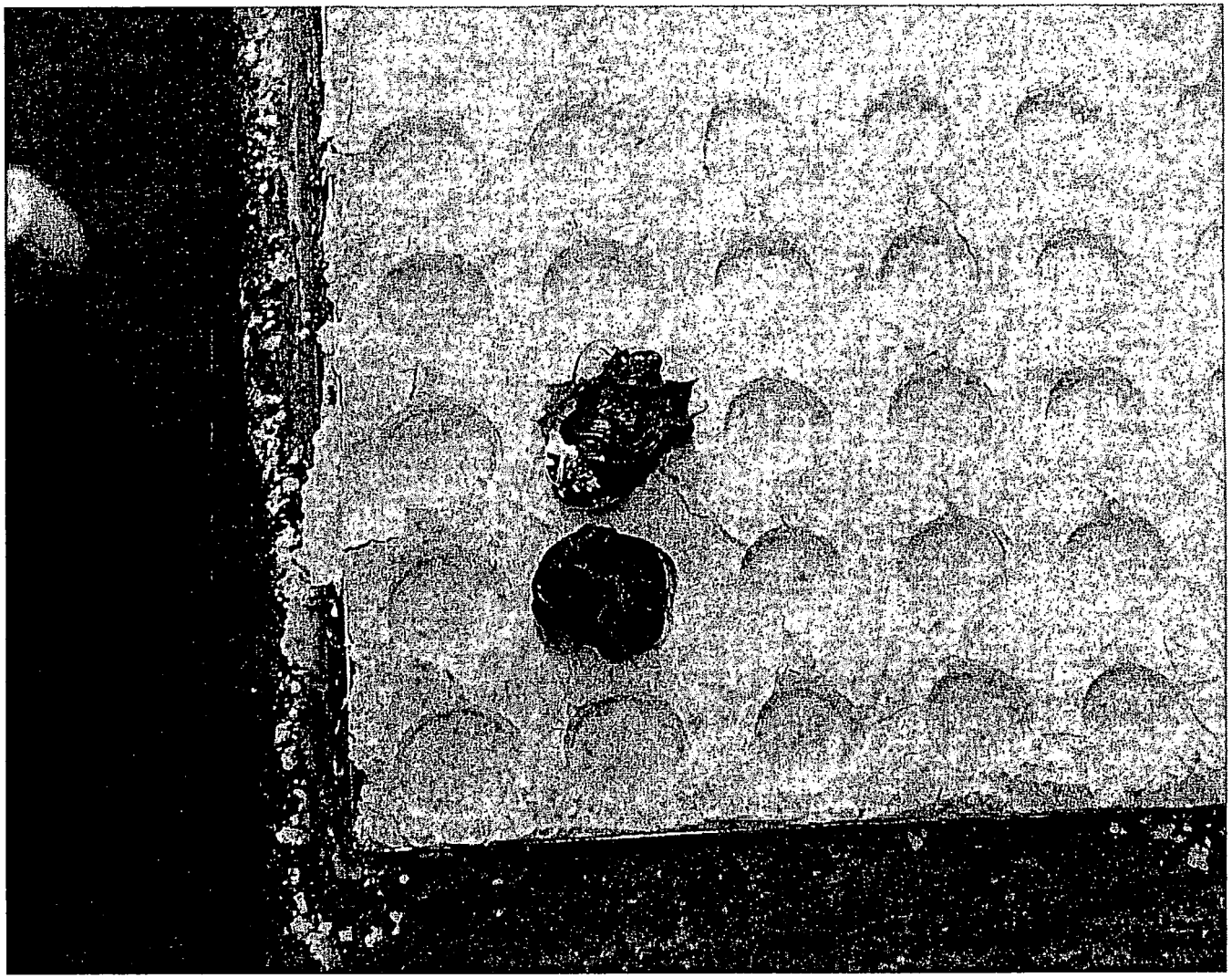


CPKelco

Hershey patent caramel example 1

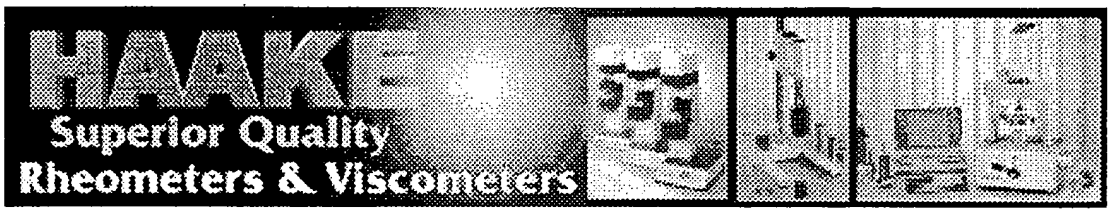
FIG. 6

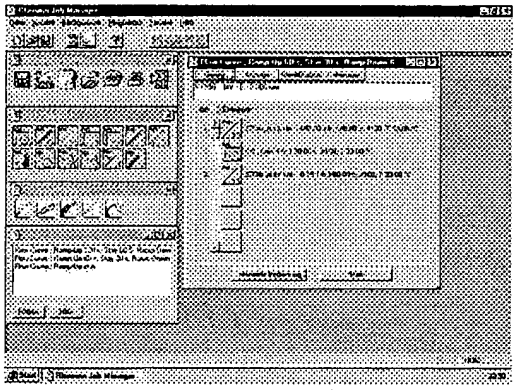
- Final product



RheoWin Features Page

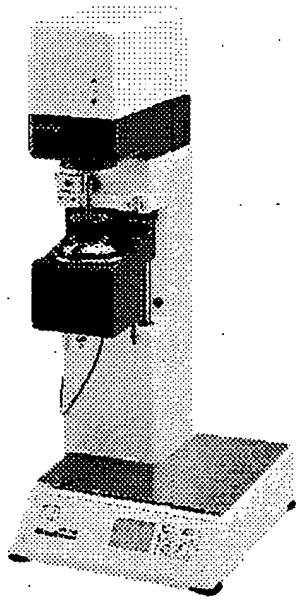
Back Home





The new HAAKE RheoWin software was designed especially for Windows NT and Windows 95/98. It controls all existing viscometers (VT500, VT550) and rheometers (RS100/50/75/80/150 , RT10/20). Its functions are complete as required for sohisticated rheology and rheometry including the time saving JOB STREAM feature. The handling is now much easier because the software can almost be fully operated by the click of the mouse; drag & drop allows the user to combine whole test procedures from a pre-defined tool box and with the right mouse button the available options at a certain stage are listed. If help is required, animated videos show how to perform the required job. New features are:

- key functions, symbols and icons correspond with Microsoft Office
- a measurement and evaluation can be composed with drag & drop
- any variation of measureing methods and evaluation procedures can be combined in one test run
- measurement sections not yet started can be edited or erased on-line; new ones can be inserted
- the on-line screen display can be changed during a running test
- simultaneous measuring and data evaluation is possible without losing data
- direct data output to other Windows programs such as Microsoft Office (Word, Excel etc.) is possible
- "true" multitasking with several rheometers or viscometers is available



Pass on your comments to us or download your evaluation version below:

- RheoWin Feedback
- RheoWin Download

Research Outline

CURRENT RESEARCH PROJECTS:

Glass transition temperatures of cereal-based foods

Background: Crispness is important to many cereal-based foods, such as breakfast cereals and cereal-based snacks. It has been reported that the crispness of foods is highly sensitive to moisture change. It is also suggested that the glass transition theory may provide a clearer approach to understanding the texture changes of crisp snacks as the water content increases. The purpose of this study was to investigate the crispness of cereal-based foods as a function of glass transition and moisture content using corn cake as a model system.

Recent Results: Effects of water plasticization on corn cakes were predicted by the Gordon-Taylor's equation. Moisture sorption isotherms were established using the BET and GAB equations. The relationships among glass transition, moisture and texture were explored. The BET monolayer moisture contents were good indicators of the initial loss of crispness of the corn cakes. Glass transition results indicate that the loss of crispness of corn cakes took place within their glassy state. Water plasticization effects of the corn cakes were well predicted by the Gordon and Taylor equation and may be responsible for the texture change within the glassy state.

High-moisture vegetable protein texturization by twin-screw extrusion

Background: Extrusion technology has been used to produce texturized soy protein products for many years, primarily as meat extenders for human consumption. The market and consumer acceptability of this type of products is still limited, mainly due to less than desirable textural characteristics of the texturized soy products. High moisture texturization by twin-screw extrusion can greatly improve the textural properties of the products. This research will lead to expanded utilization of soybeans and wheat as value-enhanced food. The objectives of this project were to develop high quality meat analogs using vegetable proteins (e.g. soy protein and wheat gluten) with high moisture extrusion technology and to conduct fundamental research related to high moisture extrusion.

Recent Results: Different from products extruded at a moisture level of <30% wet basis, the extrudates produced at high moisture levels were dense and fibrous in nature possessing elasticity and chewiness values similar to real meat such as beef. The extrudates rehydrated well; rehydrated samples were tender, retaining their integrity upon heating.

Viscoelastic properties of soy protein isolate and wheat starch systems

Background: Twin screw extrusion texturization of vegetable proteins under high moisture conditions has a great potential in novel food product developments. During high moisture texturization, food proteins undergo thermal gelation, which causes structural changes. The extent of denaturation

and the exposure of functional groups during such processes may affect the rheological properties of gels and the texture of the final products. The objective of this study was to investigate the viscoelastic behavior of soy protein isolate and wheat starch systems as a function of temperature and protein content.

Recent Results: The results of this study suggest strong relationships between viscoelastic properties and gel structure formations, and can provide important information on texture formation during high moisture texturization of vegetable proteins. Below 90°C, the viscoelastic properties of soy protein isolate and wheat starch systems were less affected by temperature and angular velocity. Around 90°C, the viscoelastic properties of the soy protein isolate system showed strong and non-linear dependency of the angular velocity. The elastic modulus of the systems increased with increasing wheat starch content. Adding wheat starch to the soy protein systems also reduced the non-linearity of the elastic and viscous moduli, especially at 90°C.

Partial list of instruments:

RheoStress RS100 (Haake, Paramus, NJ). A sophisticate rheometer which allows rheological measurements under controlled stress (CS), controlled rate (CR) and oscillation (OSC) test modes.

Exstar 6100 Dynamic Mechanical Thermal Analyzer (Seiko nstruments, Chiba, Japan). This instrument has four modes of sample deformation including compression, tension, shear and bending, and is able to operate from -150 to 600C at 0.01 to 20C/min heating and cooling rate from 0.01 to 100Hz. Italsohas Fourier transform technology in the noise reduction, and is able to handle a wide range of materials from solid films to melts.

PyrisTM 1 Differential Scanning Calorimetry with TAC 7/PC Thermal Analysis Controller (Perkin-Elmer Corp., Norwalk, CT) is a state-of-the-art computer controlled laboratory instrument that operates with Perkin-Elmer's unique power compensation design.

TA.XT2, TA.HDi Texture Analyzers with XTRA Dimension software (Texture Technologies, Corp., Scarsdale, NY). It provides force or distance measurements in compression or tension mode with a wide variety of available probes.

The Fox 200 heat flow meter instrument (LaserComp, Wakefield, MA). A complete system with thermal conductivity instrument for testing in accordance with ASTM C518 and ISO 8301 specifications.

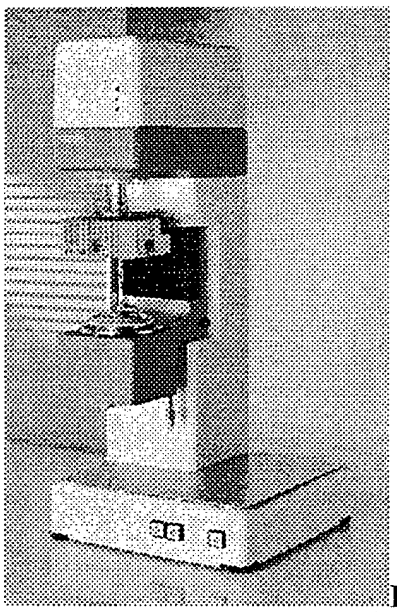
HAAKE Viscotester VT550.

Rheology Lab

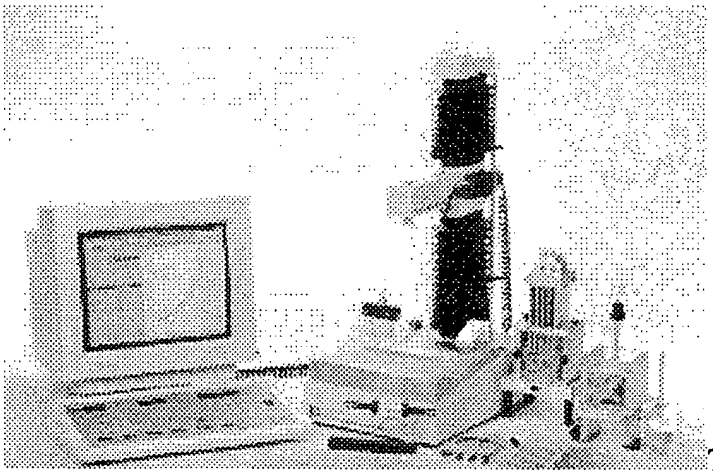
Department of Agricultural Engineering
Room 222 Scoates Hall
Contact: Dr. Elena Castell-Perez , Dr. Rosana Moreira

The Rheology Lab houses state-of-the-art equipment for measurement and analysis of rheological properties of materials. Students and researchers have access to capillary, falling ball and Brookfield viscometers for measurement of relative viscosity of fluid materials, a Haake RV20 Rheometer for Static and Dynamic testing (viscoelasticity), a Haake Controlled Stress Rheometer (RS100) for accurate determination of yield stress, and a TA-TX2 Texture Analyzer for characterization of solid-like materials.

Equipment:



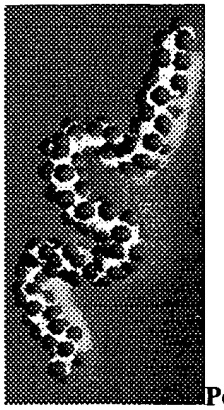
Haake RheoStress RS100

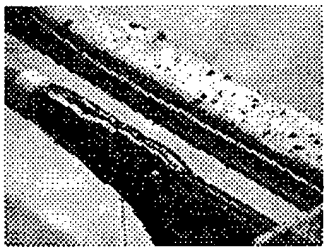


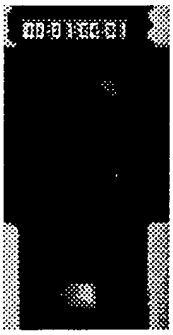
TA-TX2 Texture Analyzer

Applications:

- **Evaluation of funcionality of food, agricultural, and biological materials**
- **Development of alternative packaging films**
- **Optimization of extrusion processes**
- **Food quality measures**
- **Food Process Engineering (pump and pipeline design, mixing, heat exchangers, etc.)**


Polymer structure


Extrusion


Uniaxial Extensional Flow


Fluid properties

Future additions will be instrumentation for complete measurement and analysis of physical, mechanical, and thermal properties of materials.

Publications

Current Research Projects

LABORATORY EQUIPMENT - FOOD ENGINEERING AND PHYSICAL PROPERTIES LABS

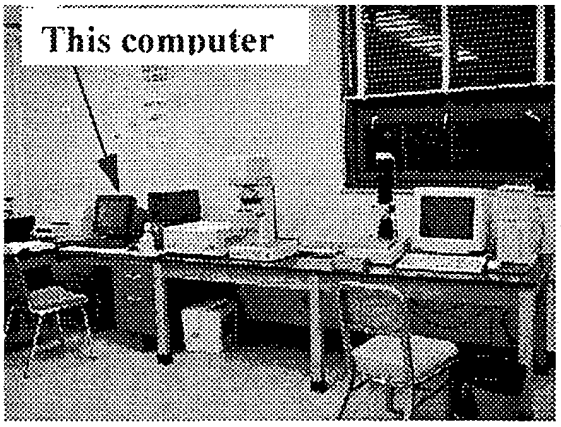
Dr. Rosana Moreira & Dr. Elena Castell- Perez
Biological and Agricultural Engineering Department
Scoates Hall - Rooms: 314, 316, 222, and 144

CHAPTER 2

HAAKE RHEOSTRESS-RS100

PROCEDURE

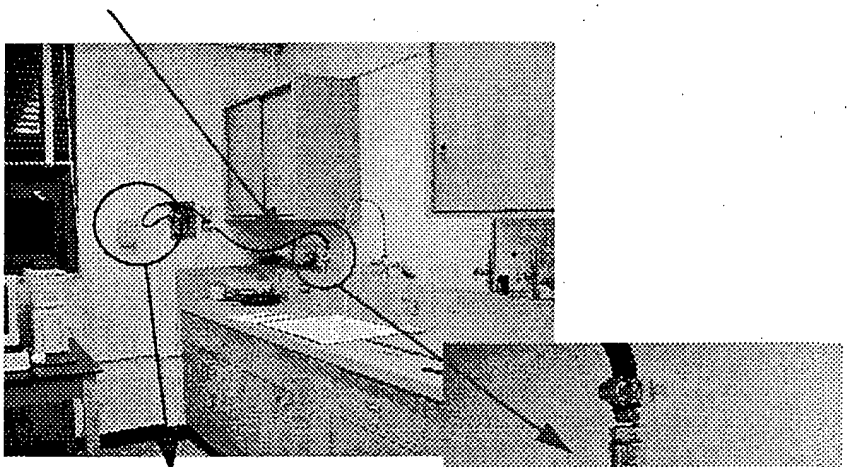
Turn the units on

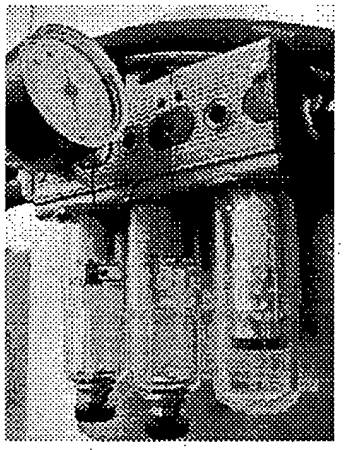


1. Turn computer ON.

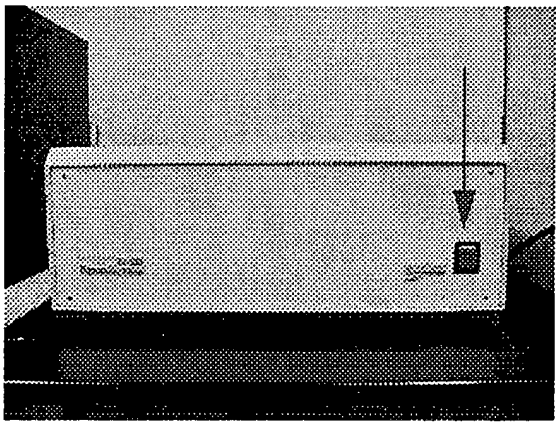
   Press OK without any password type to log on the computer

2. Open **air line**. Check the gauge on the air filter until it reads 2.5 bars





3. Turn RheoStress-RS100 Control Unit ON (large green button)

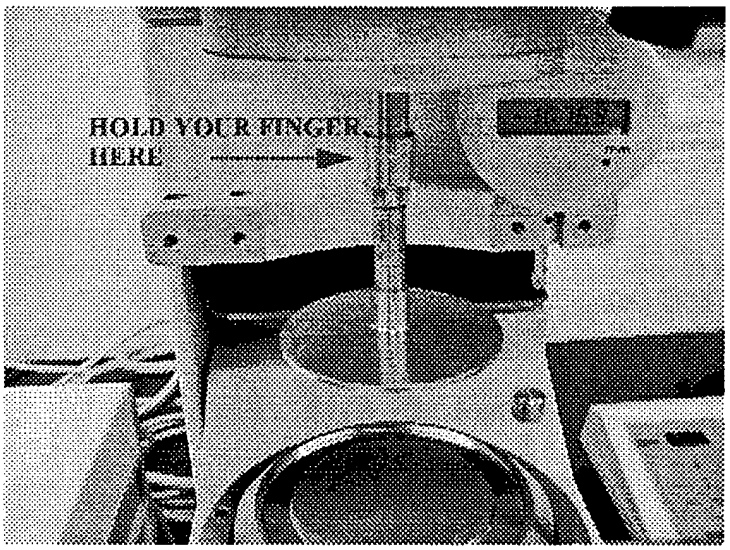


4. The RheoStress- RS100 Measuring Unit's green light should be ON. This indicated the instrument is received the correct air pressure. If the red light are on instead, please check the air line and the gauge until the green light stays on. This step is critical for proper use of the instruments.

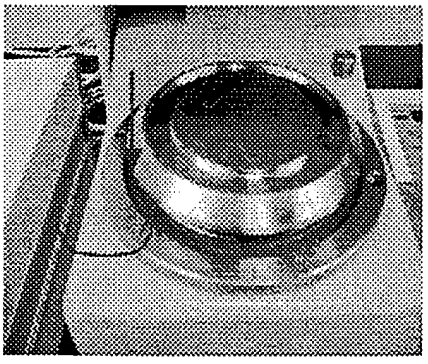
5. Allow the unit to stabilize for at least 30 minutes. Then you can begin to set the instrument up for testing.

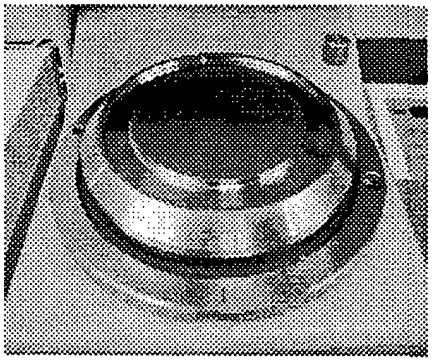
Set up the measuring units

6. Place sensor on top (hold the top and gently screw until in place).



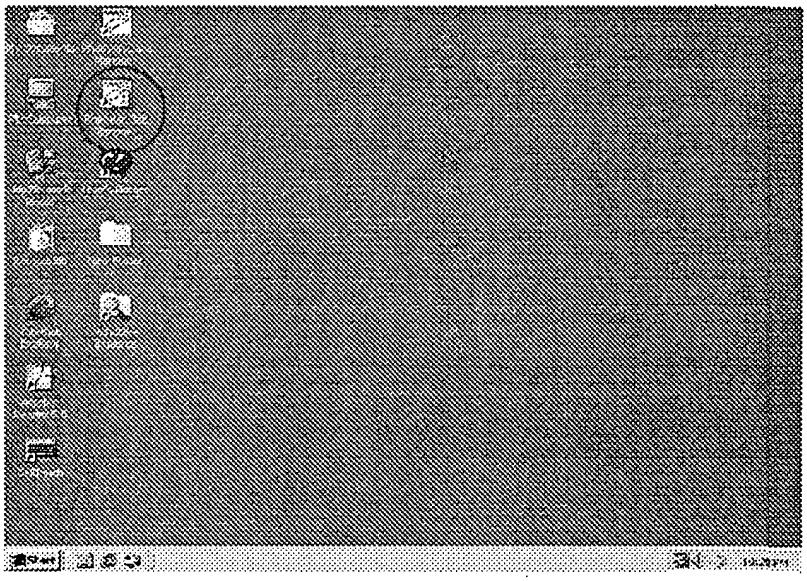
7. Place measuring platform. Adjust plate with its vertical mark to the front, move downward and turn right. BE CAREFUL NOT TO FORCE THE PLATE BECAUSE IT CAN BE EASILY DAMAGED!



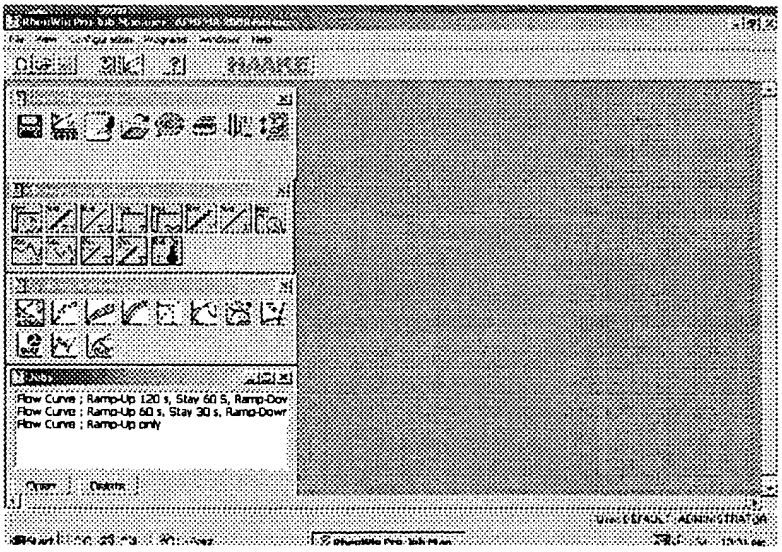


Set up the computer program

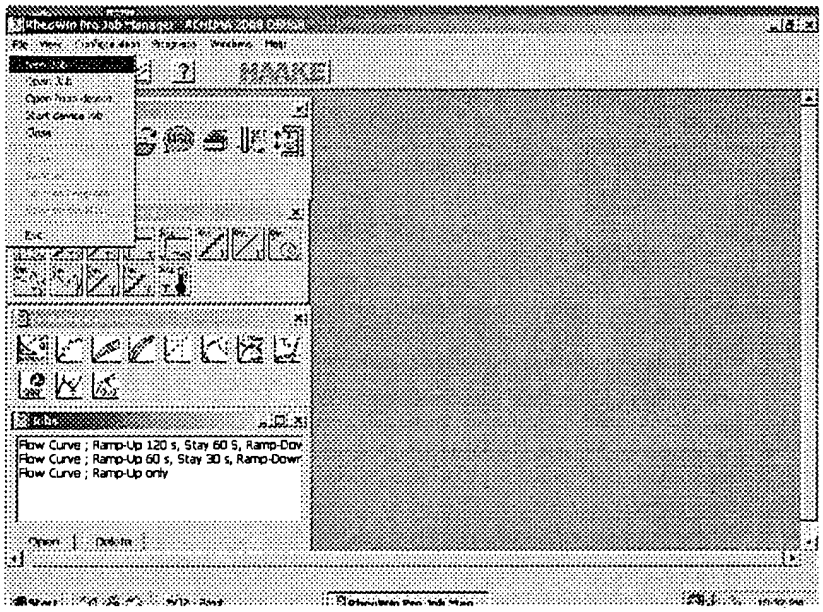
8. Open the RheoWin Job Manager by double clicking.



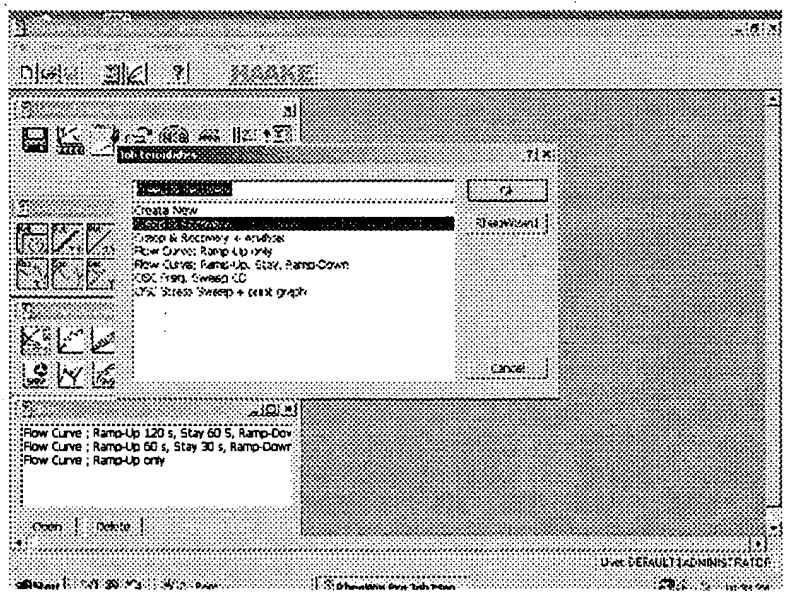
After the program is opened, it looks like:



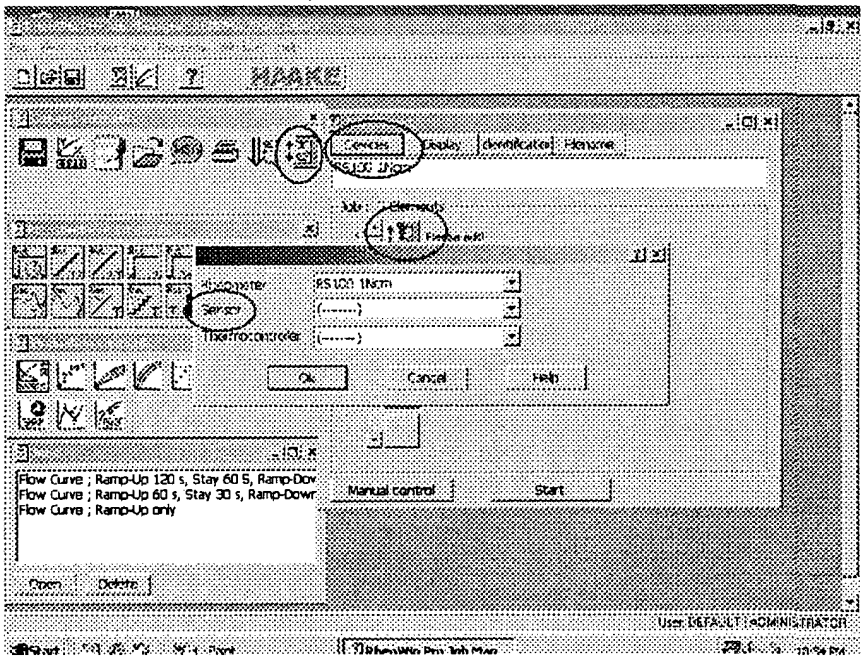
9. Select **New Job** in File



Then it looks like:



10. Select the test you would like to run. Hit OK. The Job Edit will come up.Select **Device** to set up the sensor. Select the sensor you will use by dragging the bar next to it. There are 2 sensors in our lab so far: 60mm 1° and 20mm 4°.



11. After setting up device, double click each job element to edit. You can drag the element from general elements and measuring elements as well.

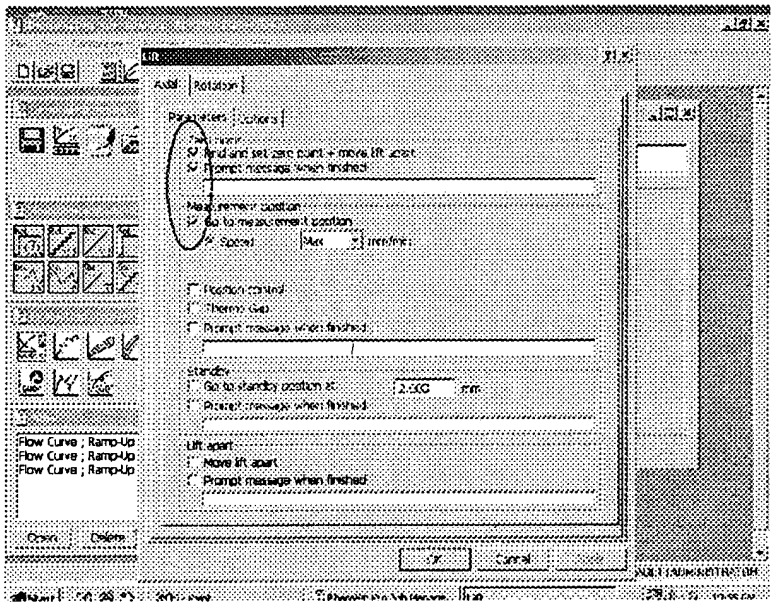
Make sure you have the Zero point element (see above) as the first element in the job editor. Otherwise, drag it from the General elements.

Double click the Zero point element in the job editor. Make sure the first 3 options are selected (see next page). They present:

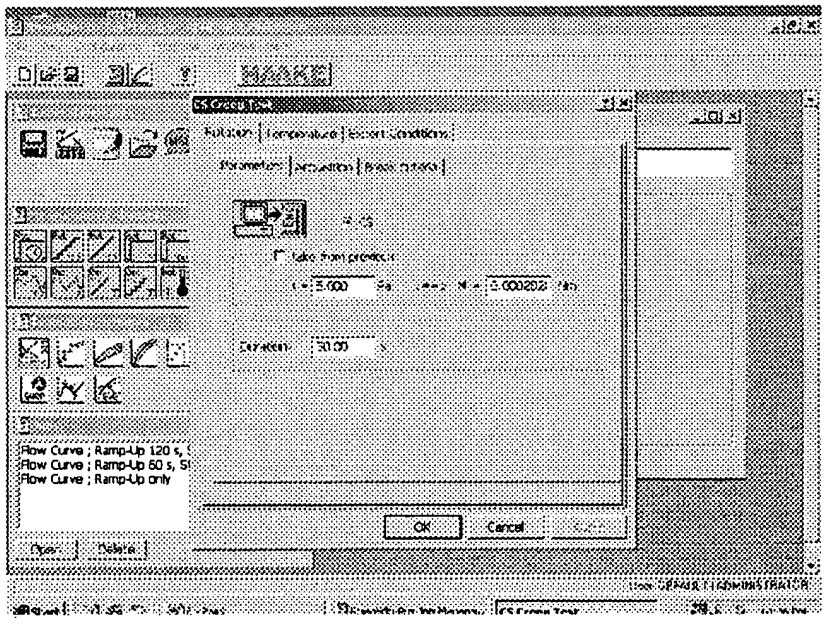
Find and set zero.....: set the sensor to zero

Prompt message.....: Show the message after the zero point so you have time to apply sample on the plate and start the test manually.

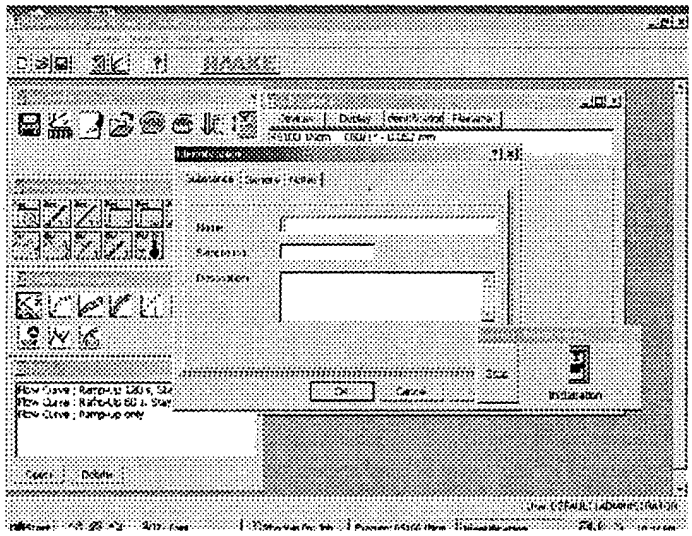
Go to measurement.....: machine will go back to the measure position after zero point.



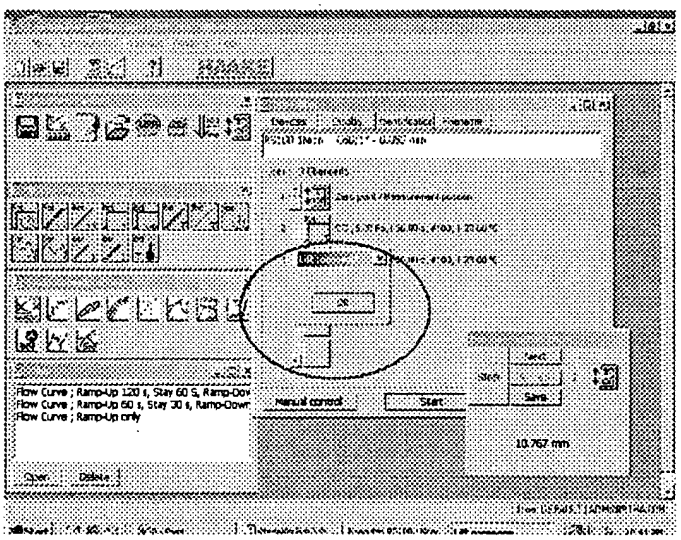
12. Double click each element to edit the parameters. For example:



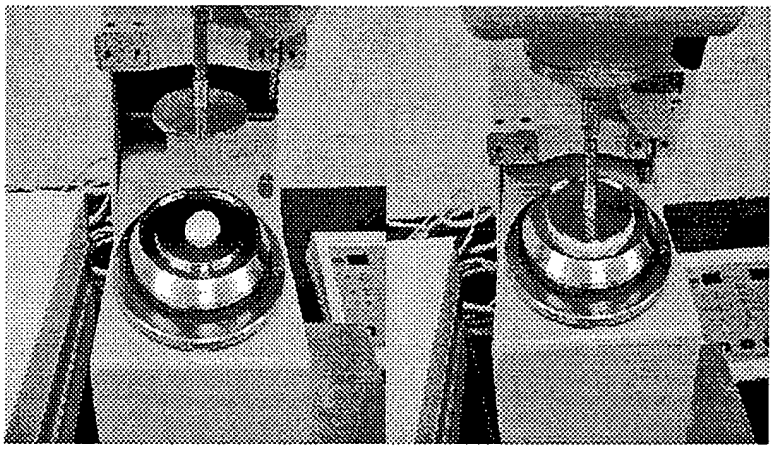
13. After set up all elements, you should be able see all the parameters in the job editor. Click START to start the test. Do NOT apply any sample on the plate. It will start to calibrate first. The identification dialog box will come up. You can hit OK without any input. Then the calibration will start automatically.



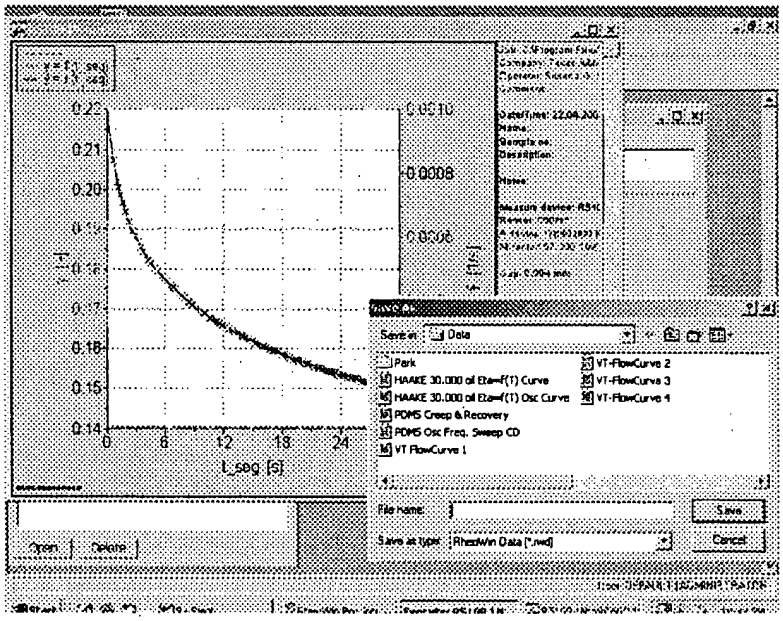
After the calibration, the other message dialog box will come up. Apply sample on the plate (see next) then hit OK. The test will start.



14. Apply about 0.5 tablespoon sample (for 60mm/1°) in the center of the plate. The sample should be able to fill up the gap between the sensor and plate nicely. You should see some sample located in the gap in the plate when the test is running so the gap is full

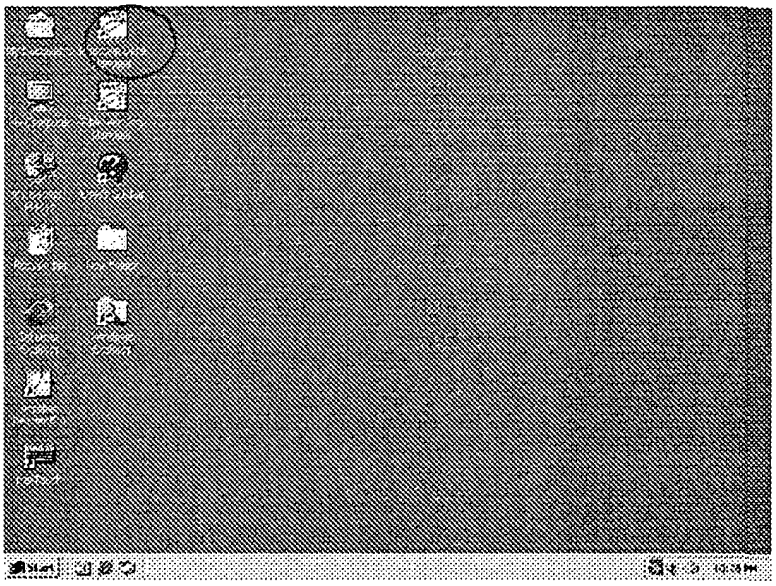


15. After the test finishes, the save dialog box will show up. Input the file name you want to save your data.

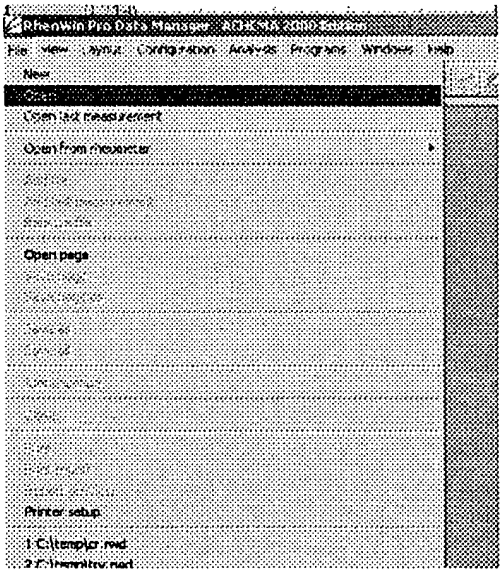


Process the data

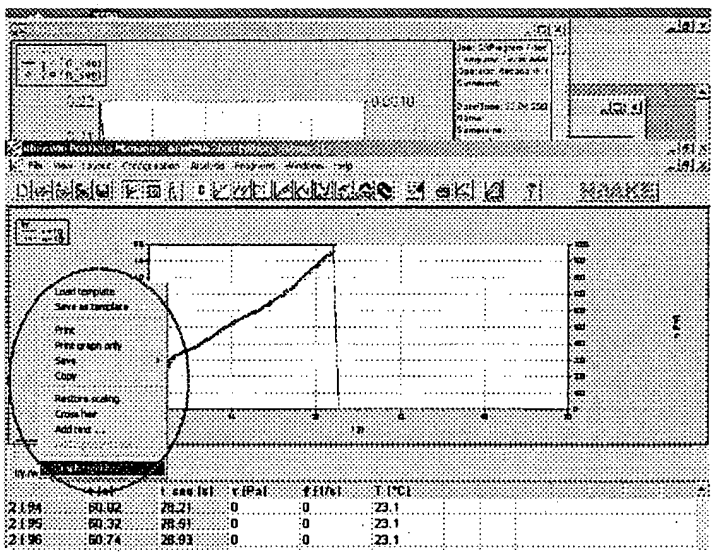
16. Double click the RheoWin Data manager



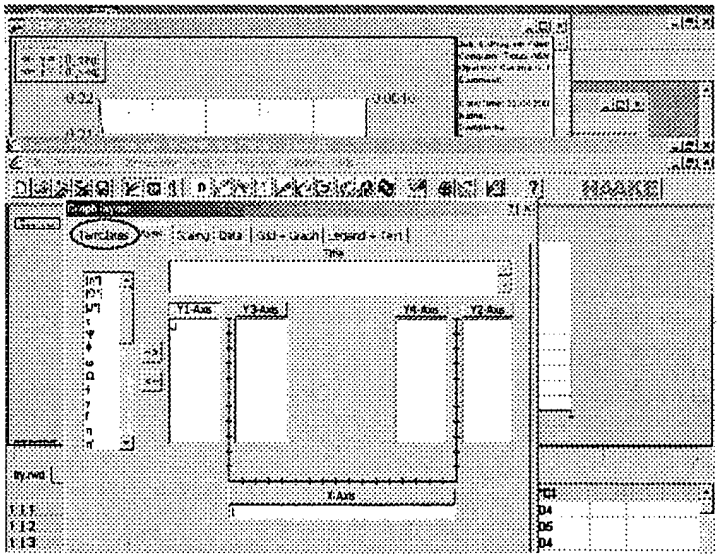
17. Go to File to open the file you just saved



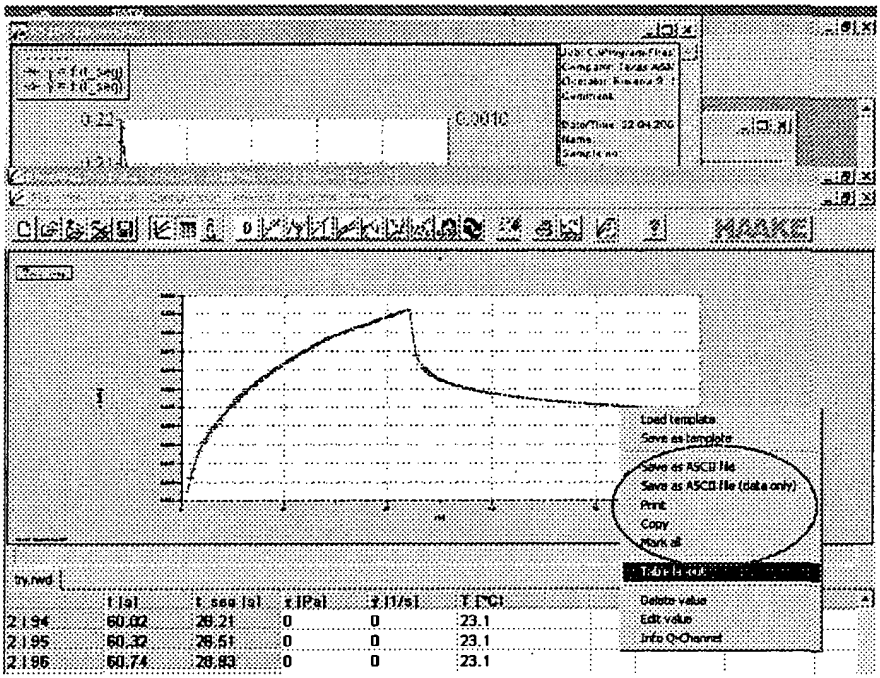
18. The data might not come out in the right format. Point the graph and click the right key on the mouse. A small screen will come up:



Select Graph layout and you will see the dialog box. You can select the templates or by selects axes to change the graph. Remember to hit OPEN in the template page after you click the one you need.



19. Do the same thing when you point the table so the data output will be the right format:

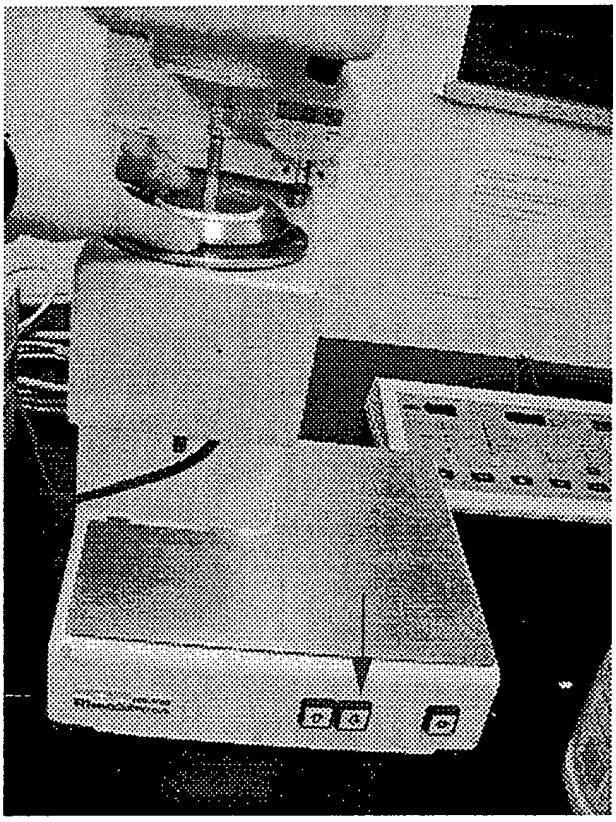


	t [s]	t_sea [s]	s [Pa]	v [1/s]	T [°C]
2	1.94	60.02	28.21	0	0	23.1
2	1.95	60.32	28.51	0	0	23.1
2	1.96	60.74	28.93	0	0	23.1

20. If you want to transform the data, you can use the save as, print, or copy function above. The data will be saved in the txt file and you can transform into excel or PlotIT later.

Clean up

21. Avoid damaging the plate and sensor, we need to lift the sensor manually (sample might be sticky after the test). Hold the plate and sensor carefully then press the down arrow on the bottom of the measuring unit.



Clean the sensor and plate carefully. Do not leave any residuals. Place sensor and plate back into the measuring unit to start the next test (step 11) or put them back into the boxes in the end.

22. Turn off the Rheometer (large green button), air, and computer. Put everything back into the place and clean the table.